From boatanchors@theporch.com Thu Dec 12 18:54:42 1996
From: sinned@vnet.IBM.COM
Subject: 3579 / 7050 QRG
Message-ID: <199612122047.OAA11865@uro.theporch.com>

Brasspounders,

Last night the QRN on 3579 was S9+ here in Dallas, so I tried the 7050 QRG.

Pounded away CQ BA CQ BA .... from 0100 'til 0345Z. No reposnses at all. NIL. Thinking that my 811's might be a bit soft, slid down to 7022 and worked both coasts with 80w out to the low-slung dipole.

Tried the 3579 QRG at 0400Z when the QRN went down to S3. NIL Maybe 80M just too short last night. About 3 days ago started a QSO with W5TVW in New Orleans while he was testing a rig using a six foot piece of wire for an 80M antenna. He was S2 with a 1/40th wavelength.

I'll be trying again tonight, on 7050 and 3579.

CUL
Dennis W5FRS

From boatanchors@theporch.com Thu Dec 12 10:15:46 1996
From: lkayser@rideau.net (Larry Kayser)
Subject: 829B/4D32 switchability?
Message-ID: <199612121443.JAA03142@mail.peterboro.net>

Greetings:

>Has anyone ever substituted an 829B for a 4D32? I would like to know if the pinouts are similar. I heard that Johnson did that for a while when the 4D32 got scarce during the Korean War and put the 829's in their Viking 1's. Cal.

A very elegant notion really, one I had not heard of before. Let us consider that there are better tubes than the 829B, which is starting to get rare. If your really desperate you could look at the 832 which is the little kid brother of the 829. The 832 is a pair of ~6v6's, the 829 is a pair of ~6L6's. A better and easier tube in some ways for the 829 would be a 5894 and even an 8117. The later is rare but almost no one used 8117 very much and they have been found very cheap at times.

The driving force of this alternative tubing of the transmitter is to retain the same socket, even though the wiring would change. A liberal sprinkling of ferrite beads on the Grid and Screen leads will help control the extra enthusiasm for amplification that the 5894 and 8117 have over the 829.

Larry
va3lk / wa3zia

From boatanchors@theporch.com Thu Dec 12 10:15:46 1996
From: Karl-Arne =?ISO-8859-1?Q?Markstr=F6m_08?= 6017171
Subject: Re: Acorns
Message-ID: <A42IPP3IZBJ*/R=A1/R=MRGST/U=KAM/@MHS.stoa.mobitel.telia.se>

Hello Boatanchorites!

Followed the very interesting thread about acorn tubes recently.

A memory of a picture from an old engineering textbook
came to my mind, the use of acorn tubes (or similar) in
the earliest proximity fuses.

Does anybody in this group know some details about the *extremely* rugged
vacuum tube techology used in these early CW radar proximity fuses?

Especially in which ways the internal tube structures were prevented
from collapsing from inertial and centripetal forces
when an anti-aircraft gun was fired.

73

Karl-Arne Markstrom
SM0AOM

kam@stoa.mobitel.telia.se

From boatanchors@theporch.com Thu Dec 12 23:53:41 1996
From: "David L. Thompson" <thompson@mindspring.com>
Subject: April 1950 CQ
Message-ID: <199612130436.EAA45522@mule0.mindspring.com>

More good stuff and you learn from each magazine.

1.   Introduced the 807W on the front cover, big ad on page 5, and article about the tube on page 26.   Funny thing is that on page 22 the Article is "A Senior-Grade 807 Transmitter" has the original 807 not the W.

2. Lots of neat construction articles 1.) 80 Meter Traffic Midget 25W 6L6 with VFO. 2.)Economical 10 meter phone transmitter. 3.) Beginners 160 Transmitter (More 6L6s).

3. Besides the 807W this could be called the Eldico edition. Harvey ad on page 41 says "presents the Eldico Line." Waler Ashe ad on page 47 shows the transmitters and power supplies. Page 51 is W2UOL's Eldico of NY (Was there any other??). Featured are the TR-1 and TR-75. Walter Ashe features the complete TR-1 300W transmitter kit. Hey this would make a great BA set. Consists of the Final Amp (813), modulator, and 1500V PS. Says complete with antenna relay, mic, tubes , and coil for one band. If you put together the kit you would need a front panel (put this in a small rack!!!) and some Reynolds do-it-yourself aluminum to shield it. TR-75 is the 807 little brother.

Before Eldico became famous for the SSB stuff they also made low pass filters, brute force line filters, high voltage powewr supplies, modulators (matched TR-1 and TR-75), a harmonic chaser and two different electronic keyers. I also see a grid dip meter.

I had the later EE-3 keyer and when we were building our 4-400A amp in 1958, W5IHP (Graham) loaned me an HV2500 power supply with 872's. I gave it back when the transformer conked out
two years later. 1950 price was $99.95 for the PS kit and $69.95 for the xmfr. I got him a replacement from a guy I worked in sweepstakes, K0BIT (think he now calls himself Peter Dahl Co).

4. On Page 60 there was an ad for the Bud VFO-21 by a Cleveland outfit called Radio and Electronic Parts Corp. Says it is a complete CW transmitter, stable as a crystal, and comes with 40 meter coils.

BTW Lettine is already building the little steel cabinet based 240. A company called Pioneer Broach Company is making chassis presses and punches.

Hey guys/gals were are those TR-1's??

Dave K4JRB

From boatanchors@theporch.com Thu Dec 12 10:15:46 1996
From: Tom Clarke <fclarke@erols.com>
Subject: Re: BA O'scope aircraft engine analyzer
Message-ID: <32AFB71C.239B@erols.com>

Dan Arney wrote:
>

> Ian, I have over 3000 hours as a Captain flying Lockheed Connies.
> we used the analyzer at all times. We had R3350's Turbo compounded.
> The unit was always on. You couls see all; 4 engines or just one by
> a selector switch. We had autofeathering capability also. We could
> look at all aspects of the ignition system, i.e.
> primary,secondary,coils, harness,leads and plus. Our SOP was for
> Flt. Engineer to call out Double shorted number 3 for example. and
> for the Captain to turn around and confirm it and the order the
> engine feathered immediately. In most cases that would indicate
> that we had swallowed a valve. By shutting down quickly we would
> normally only have to replace a jug and a PRT if we were not fast
> enough, in most cases we would lose the PRT. I think most of ours
> were Land Air, some were Bendix. We still hold the world record for
> 2300 hours of being on the aircraft. We were flying in Southeast
> Asia support for MAC. This was for Flying Tiger Air Service
> 65.66.67. in and out of Nam.
>
> For use on a car I think you have to find some pick ups. I should
> have my instruction manual somewhere.(being the packrat I am).
>
> These units were mounted on end to left of the FE's staion so that
> it visable to all of the Flite crew.
>
> Hank
>
> >Date: Mon, 9 Dec 1996 10:53:33 -0600 (CST)
> >From: "Ian Abbott" <ian@gene.COM>
> >Sender: boatanchors@theporch.com
> >To: Multiple recipients of list <boatanchors@theporch.com>
> >Subject: BA O'scope aircraft engine analyzer
> >
> >Greetings, hollow-state fans!
> >
> >   I've taken in a boatanchor oscilloscope built by the Bendix
> >Scintilla Corp. for use as an engine analyzer for radial aircraft
> >engines. No manual was included, of course, but all the cables are
> >there and there's a schematic laminated on the side of the
> cabinet.
> >It's got lots of tubes, *and* it belongs to the era of "round"
> aircraft
> >engines, so I think it's a *really* neat piece of equipment.
> >
> >   Does anyone on the BA list have experience using one of these
> >old BA engine analyzers? I've got another BA 'scope for general
> use,
> >but I'd like to use this one *almost* as it was intended- as an
> engine
> >analyzer when I tune up my VW Beetle! Hey, it's an air-cooled

```
> engine,
> >anyway!
> >
> >       I'd be especially grateful to hear from anyone with
> experience
> >using anything like this piece of boatanchor-and-aviation history.
> >Hints, kinks, or just tales of where and when you worked with this
> kind
> >of gear will be most appreciated.
> >
> >       Cheers!
> >
> >       Ian Abbott
> >
> >--
> >%< %< %< RUNNING WITH SCISSORS DOWN THE HALLWAY OF LIFE... %< %< %<
> >~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~%~~~~
> >Ian E. Abbott                        |  abbott.ian@gene.com    %
> >Genentech, Inc.                      |  Voice: 415.225.1793  %
> >Fermentation/Recovery                |  Pager: 415.655.9160 <"}}}}><
> >Information Systems Group            |  Fax:   415.225.3541  _|  _|
```

We used them on the P-2 Neptunes also. The FE could tell a lot about the "health" of those 3350's with that analyzer! Nothing like a PRT coming apart on a dark night to get the heart rate up! I was always amazed at the ability of the Eng to look at 72 spark plugs and pick out a problem.

If "Real radios glow in the dark", then "Real airplane engines make noise, smoke and throw lots of oil around!"

Tom Clarke, W4OKW
ATP L-188, L-382, CV-880/990, 11,000 or so hours.
Retired USN
BA afficianado

From boatanchors@theporch.com Thu Dec 12 10:15:46 1996
From: DArney@gnn.com (Dan Arney)
Subject: Re: BA O'scope aircraft engine analyzer
Message-ID: <199612120600.BAA12578@mail-e2b.gnn.com>

Tom.

YOU FORGOT THE OIL SPOTS ON THE UNIFORM. The scope said a lot. I have over 20,000 hrs .3300 in the L-188 over 4,000 in 707-720-DC-8 747 plus AJ's LB-34-B-26 CV-240-340-440-580 Martin 202-404 DC-2-HU-16 Pt-17-J-2J-3 etc.etc. over 375 type and about 120 or round the world trips. Flew in a neptune once out of Burbank on a test flight with Tony LeVier. The analyzier was a engine saver for sure. Oh yeah I flew the L-382 in Canada when I was checking out L-188 crews for Pacific Western out of Edmonton (The Flying Mustache) Will take the Electra any day for being a pilots airplane as it was stable. The Herc hauler sure did like to rock and roll at altitude. Like balancing a ball on a pin hand flying. We flew cargo and fuel without the benifits of George (oh yeah Jack he did have TUBES if he was on board). Anyway THANKS TO ALPA AND THE CONTROL OVER THE FAA had to quit flying at age 60.

Hank
>snip
>From: Tom Clarke <fclarke@erols.com>
>To: DArney@gnn.com
>cc: Multiple recipients of list <boatanchors@theporch.com>
>Subject: Re: BA O'scope aircraft engine analyzer
>
>Dan Arney wrote:
>>
>> Ian, I have over 3000 hours as a Captain flying Lockheed
Connies.
>> we used the analyzer at all times. We had R3350's Turbo
compounded.
>> The unit was always on. You couls see all; 4 engines or just one
by
>> a selector switch. We had autofeathering capability also. We
could
>> look at all aspects of the ignition system, i.e.
>> primary,secondary,coils, harness,leads and plus. Our SOP was for
>> Flt. Engineer to call out Double shorted number 3 for example.
and
>> for the Captain to turn around and confirm it and the order the
>> engine feathered immediately. In most cases that would indicate
>> that we had swallowed a valve. By shutting down quickly we would
>> normally only have to replace a jug and a PRT if we were not
fast
>> enough, in most cases we would lose the PRT. I think most of
ours
>> were Land Air, some were Bendix. We still hold the world record
for
>> 2300 hours of being on the aircraft. We were flying in Southeast
>> Asia support for MAC. This was for Flying Tiger Air Service
>> 65.66.67. in and out of Nam.
>>
>> For use on a car I think you have to find some pick ups. I
should
>> have my instruction manual somewhere.(being the packrat I am).

```
>>
>> These units were mounted on end to left of the FE's staion so
that
>> it visable to all of the Flite crew.
>>
>> Hank
>>
>> >Date:  Mon, 9 Dec 1996 10:53:33 -0600 (CST)
>> >From:  "Ian Abbott" <ian@gene.COM>
>> >Sender:        boatanchors@theporch.com
>> >To:    Multiple recipients of list <boatanchors@theporch.com>
>> >Subject:       BA O'scope aircraft engine analyzer
>> >
>> >Greetings, hollow-state fans!
>> >
>> >       I've taken in a boatanchor oscilloscope built by the
Bendix
>> >Scintilla Corp. for use as an engine analyzer for radial
aircraft
>> >engines. No manual was included, of course, but all the cables
are
>> >there and there's a schematic laminated on the side of the
>> cabinet.
>> >It's got lots of tubes, *and* it belongs to the era of "round"
>> aircraft
>> >engines, so I think it's a *really* neat piece of equipment.
>> >
>> >       Does anyone on the BA list have experience using one of
these
>> >old BA engine analyzers? I've got another BA 'scope for general
>> use,
>> >but I'd like to use this one *almost* as it was intended- as an
>> engine
>> >analyzer when I tune up my VW Beetle! Hey, it's an air-cooled
>> engine,
>> >anyway!
>> >
>> >       I'd be especially grateful to hear from anyone with
>> experience
>> >using anything like this piece of boatanchor-and-aviation
history.
>> >Hints, kinks, or just tales of where and when you worked with
this
>> kind
>> >of gear will be most appreciated.
>> >
>> >       Cheers!
>> >
>> >       Ian Abbott
>> >
>> >--
>> >%< %< %< RUNNING WITH SCISSORS DOWN THE HALLWAY OF LIFE... %<
%< %<
>>
>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~%~~~~

>> >Ian E. Abbott                        |  abbott.ian@gene.com   %
>> >Genentech, Inc.                      |  Voice: 415.225.1793  %
>> >Fermentation/Recovery                |  Pager: 415.655.9160
<"}}}}><
>> >Information Systems Group            |  Fax:   415.225.3541  _|
_|
>
>We used them on the P-2 Neptunes also.  The FE could tell a lot
about the
>"health" of those 3350's with that analyzer!  Nothing like a PRT
coming
>apart on a dark night to get the heart rate up!  I was always amazed at
>the ability of the Eng to look at 72 spark plugs and pick out a problem.
>
>If "Real radios glow in the dark", then "Real airplane engines make
>noise, smoke and throw lots of oil around!"
>
>Tom Clarke, W4OKW
>ATP L-188, L-382, CV-880/990, 11,000 or so hours.
>Retired USN
>BA afficianado



From boatanchors@theporch.com  Thu Dec 12 18:54:42 1996
From: "Gene S. Katz" <gkatz@motown.lmco.com>
Subject: BAJoke of the Year
Message-ID: <Chameleon.961212153811.gkatz@pc062164.motown.lmco.com>


-------------------------------------
Name: Gene Katz
E-mail: gkatz@motown.lmco.com
From boatanchors@theporch.com  Thu Dec 12 18:54:42 1996
From: Matt Jodziewicz <mattj@orausa.com>
Subject: RE: Boinnng!
Message-ID: <01BBE809.56C19EE0@mattj.orausa.com>

Hi Dick,
     I am posting this to the group as it might be of interest
```

to some others as well.
     Since I finished restringing a SX62 a few months back
let me suggest you find some kevlar fishing line (yes I am not kidding) for the dial cord. It is incredible. Does not slip, easy to use and tie and stronger than dirt!! My dial now spins as smoothly as my SP600!!! All kidding aside the kevlar fishing line is the best that I have found for dial cord bar none.
     Hope this helps.

Matt   WB2VZS

From: Dick Dillman[SMTP:ddillman@igc.apc.org]
Sent: Wednesday, December 11, 1996 1:01 PM
Subject: Boinnng!

There I was, crusing the bands with my SX-62A, when the fate that must befall all users of high-strung radios befell me: the dial cord broke. Now I must ask for information I should have noted when it appeared in these pages the first time, when I didn't think I'd need it.

Would some kindly soul please remind me of the source for:

>> Dial cord, and

>> those wrenches for the knurled nuts around the switches I'll have to remove.

Thanks!

Dick Dillman
WPE2VT W6AWO
<ddillman@igc.apc.org>
Collector of Heavy Metal:
Harleys, Willys and Radios Over 100lbs.

From boatanchors@theporch.com Thu Dec 12 10:15:46 1996
From: Jeffrey Herman <jherman@hawaii.edu>
Subject: Book and article needed
Message-ID: <Pine.GSO.3.93.961211204006.25809A-100000@uhunix3>

I'm looking to borrow the book WIRELESS AT SEA, THE FIRST FIFTY YEARS, by Harry Edgar Hancock (1950).

I'm also looking for the article ALARM SIGNALS ESTABLISHED, which appeared in the Proceedings of the Merchant Marine Council, Vol. 19 (Feb '62). This article discussed the (new at that time) CW Auto Alarm signal (twelve 4-second dashes with 1-second silence between dashes, which when decoded by a ship's 500 kc rcvr, activated alarm bells in the radio shack, bridge, and radio ops stateroom; this was to now preceed all distress calls as per the 1960 ITU conference).

I've just discovered our libarary has a copy of Karl Baarslag's SOS TO THE RESCUE (1935) which should be very interesting reading!

If anyone can help with the first two items I'd *greatly* appreciate it!

73,
Jeff KH2PZ / KH6

From boatanchors@theporch.com Thu Dec 12 10:15:46 1996
From: Neal McEwen <nmcewen@metronet.com>
Subject: Re: Book and article needed
Message-ID: <199612121454.AA17821@metronet.com>

>
> I'm also looking for the article ALARM SIGNALS ESTABLISHED, which
> appeared in the Proceedings of the Merchant Marine Council, Vol. 19
> (Feb '62). This article discussed the (new at that time) CW Auto
> Alarm signal (twelve 4-second dashes with 1-second silence between
> dashes, which when decoded by a ship's 500 kc rcvr, activated alarm
> bells in the radio shack, bridge, and radio ops stateroom; this was
> to now preceed all distress calls as per the 1960 ITU conference).

This type of alarm system was used as early as 1920 and maybe before. I have seen photos and circuit diagrams of the calling alarm systems in wireless texts. I am not at my library currently but would suggest checking Bucher's texts.

From boatanchors@theporch.com Thu Dec 12 10:15:46 1996
From: DDoonan@vines.etn.com
Subject: Collins 75A-1
Message-ID: <0010vfftlnph.0010uocucqoq@vines.etn.com>

Greeting and Compliments of the Season to all.

I have a couple of questions regarding the A-1 now on my bench.

Does any one have a manual copy and schematic they are willing to part with or an original to copy?

Can any one supply or summarize the modification in CQ for September 1951? There was a note on the bottom of the chassis that it was performed, and that the antenna coil was not cut.

Lastly, and I think this is the strange one, has anyone ever found a RX that produced audio without a speaker. No jokes or flames please. The A-1 is currently running on slightly reduced line voltage and will produce readable audio from SWBC stations on the 40 meter band. The "antenna" is only a couple of feet of wire below ground level, so no "real-radio" signals were heard. There is no hidden speaker or head phone element on the chassis. I looked, boy did I look late last night. I suspect a xfmr probably has loose laminations and rattles in the audio range. The sound could not be pinned down to a definate location (it was getting pretty late). Any ideas on this?? No the RX is not haunted and is not for sale.

TXN all
73 de Dennis, KG9DO

Dennis Doonan, KG9DO
Power Electronics Research
ddoonan@vines.etn.com
414.449.6916
Eaton Corporate Research -- Milwaukee

From boatanchors@theporch.com Thu Dec 12 18:54:42 1996
From: Bill Sorsby <bill.sorsby@dlep1.itg.ti.com>
Subject: Re: Collins 75A-1
Message-ID: <199612121844.MAA05814@lesol1.dseg.ti.com>

At 09:03 AM 12/12/96 -0600, Dennis Doonan wrote:

>Lastly, and I think this is the strange one, has anyone ever found a
>RX that produced audio without a speaker.

Yep. I've had several receivers which would do that. None did it very well, but with the volume control turned up, the audio transformers will occasionally "sing". It's the same phenomenon that causes power transformers to "hum".

Regards,
Bill Sorsby, N5BU

****
bill.sorsby@dlep1.itg.ti.com
Views expressed herein are no one's fault but mine.
****

From boatanchors@theporch.com Thu Dec 12 10:15:46 1996
From: Bob Reynolds <breynold@sigg.com>
Subject: Collins 75A-1 -Reply
Message-ID: <96Dec12.092454cst.19621@firewall.sigg.com>

>>> <DDoonan@vines.etn.com> 12/12/96 09:03am >>>
Greeting and Compliments of the Season to all.

I have a couple of questions regarding the A-1 now on my
bench.

Does any one have a manual copy and schematic they are
willing
to part with or an original to copy?

Can any one supply or summarize the modification in CQ for
September 1951? There was a note on the bottom of the
chassis that
it was performed, and that the antenna coil was not cut.

Lastly, and I think this is the strange one, has anyone ever found
a
RX that produced audio without a speaker. No jokes or flames
please. The A-1 is currently running on slightly reduced line
voltage and
will produce readable audio from SWBC stations on the 40
meter band.
The "antenna" is only a couple of feet of wire below ground level,
so no
"real-radio" signals were heard.   There is no hidden speaker or
head phone
element on the chassis. I looked, boy did I look late last night. I
suspect a
xfmr probably has loose laminations and rattles in the audio

range. The
sound could not be pinned down to a definate location (it was
getting
pretty
late). Any ideas on this?? No the RX is not haunted and is not
for sale.

TXN all
73 de Dennis, KG9DO

Dennis Doonan, KG9DO
Power Electronics Research
ddoonan@vines.etn.com
414.449.6916
Eaton Corporate Research -- Milwaukee

DENNIS,

I once had the same strange audio with out a speaker or
phones. It turned out to be coming from a disc ceramic
capacitor!

73, Red K5VOL

From boatanchors@theporch.com Thu Dec 12 23:53:41 1996
From: George Humphrey <gah@koyote.com>
Subject: Re: Connectors for Twoers
Message-ID: <1.5.4.32.19961213041458.00672114@mail.koyote.com>

BAers,

Thanks for all the input. I have found them in the Mouser catalog and will
order them post haste.

73 George KC5WBV
gah@koyote.com

From boatanchors@theporch.com Thu Dec 12 18:54:42 1996
From: Glenn Finerman <GFINER@nms.com>
Subject: Dan Nelson?
Message-ID: <s2afefaa.075@nms.com>

Can someone please send me Dan Nelson's phone number.
He's the person who rebuilds / restores tube testers....

Thanks all.......

Glenn N2BJG gfiner@nms.com

From boatanchors@theporch.com Thu Dec 12 23:53:41 1996
From: Mike Sewell <75143.2737@CompuServe.COM>
Subject: RE: Drake 2A and Gonset G-50
Message-ID: <961213005204_75143.2737_IHV71-1@CompuServe.COM>

Earlier, Matt wrote;

>Can you offer any comments on the radio?

Matt,

The Drake 2-B is pretty much acknowldged by BAers as a premier receiver for its era, price class, etc. IMHO, the product detector and passband tuning on the 2-B just can't be out-classed (within reason, of course). If I were forced to choose an all-time favorite RX, it would probably be the 2-B. The Drake 2-A is the predecessor to the 2-B. It's a fine performing RX in a small package. I think you'll like it.

73,

Mike K 0 Collects Radios eXclusively

From boatanchors@theporch.com Thu Dec 12 10:15:46 1996
From: Engbert Oord <engbert.oord@jet.uk>
Subject: Eddystone 358X
Message-ID: <9612120847.AA03719@jet.uk>

Recently I acquired an Eddystone 358X, presumably made during the war period. This is a single conversion receiver with one RF and 2 IF stages. The X version has a 500 Hz wide crystal filter. All in all it employs seven tubes. The power supply is a separate unit.
Although working fine there are a few things not quite allright.
This receiver is realy built like a tank. It comes with 10 plug in coil units of which I have seven.
Missing are some of the lower frequency coil sets : g, j and i. These coil sets are of a rather more heavy duty construction than the HRO coil sets.
The meter which incidentily is used to measure the anode currents of the various valves through a switch has been replaced. I wonder what its original dial looked like.
The AF final is a VT52 = EL32. According to a small article in Radio Bygones

this should be an EL35.This I find hard to believe as this tube has an anode dissipation far in excess of what would be required. Would an EL33 be nearer to the mark? (same pin layout).

There is also a question mark about some of the knobs on this unit. They are mounted on round little metal dials some of which are engraved while others are completely blanc.

Is there somebody in BA land who has a clear photograph / drawing of the front panel of this rather nice receiver.

My receiver, the coil plugins and the power supply are all in a very nice green colour inside and outside. I have never seen or heard of a green Eddystone receiver.

I suppose it once used to be grey.

Thanks for bearing with me.

An unrelated question : how do I stop temporarely the BA mail being sent to me without ending my subscription.

Engbert Oord , G7THB
JET Joint European Torus, Culham ,UK
Email : eo@jet.uk or engbert.oord@jet.uk

From boatanchors@theporch.com Thu Dec 12 18:54:42 1996
From: km1h@juno.com
Subject: Filling holes in Aluminum
Message-ID: <19961212.193832.9647.15.km1h@juno.com>

A very interesting question was posed. I do not have an answer for clear panels or chassis but suggest a possible source.

Try a shop that specializes in antique auto restoration for some leads or help. Many VERY expensive classics used aluminum panels, dashboards, body sheet metal, etc. I would hazard a guess that not all extraneous holes (4 wheel BA's have the same problem as ours) were heliarced.....particularly those beautiful machine finished Auburn, Cord, Duesenberg dash boards. Also many European classics, RR, Mercedes, etc used aluminum extensively.

Old airplane restorers too????

What are the answers gang???

73....Carl

From boatanchors@theporch.com Thu Dec 12 23:53:41 1996
From: Morris Odell <morriso@vifp.monash.edu.au>
Subject: foot in mouth (was: Tube life)
Message-ID: <32B0C621.ABC@vifp.monash.edu.au>

Richard Hager wrote:
>
> Morris Odell wrote:
>
> > Microwave ovens are another common source of dc
> > mains loading.--
>
> Hmmmm...the microwaves that I've pulled apart had a full wave doubler supply.
> No DC loading on the mains. Agreed however, that such loading is an issue.

Oops! What I really meant was that microwaves ovens impose dc on their own transformers. Half wave rectification is reasonably common in microwaves (at least the ones I've autopsied) but of course it's their own transformers that suffer. The transformers have one side of the secondary internally grounded and the other end is connected to a half wave rectifier, capacitor and then the "maggie".

I've also got a boatanchor HP oscilloscope (130C) in which all the LV power supplies are derived from half wave rectified transformer secondaries. I'd like to think they were connected in such a way that the dc fluxes cancel in the transformer core - don't disillusion me guys if anyone knows differently!

73

Morris (with a red face)

From boatanchors@theporch.com Thu Dec 12 10:15:46 1996
From: bharris@scs.philips.com (Brian Harris)
Subject: FS: QSTs, Military Bulletin
Message-ID: <2b02a930@scs.philips.com>

I have the following items for sale:

QST - 1976 complete except March - good condition except Aug/Sep which have severe water damage - $5 for all or $1 each for the good ones - plus shipping.

QST - 1977 January through September - good condition - $5 for all or $1 each

- plus shipping.

War Department Technical Bulletin - TB 11-1126-4 - Installation and Operation of Preamplifier Kit 602A-R1 with Radio Sets SCR-602-A and SCR-602-T6 - dated 5 July 1944 and marked CONFIDENTIAL (I wonder if it's still classified?) - 52 pages for a whopping $3 postage paid to anywhere in U.S.

Brian Harris WA5UEK

From boatanchors@theporch.com Thu Dec 12 18:54:42 1996
From: km1h@juno.com
Subject: Re: Gold Reclaimers
Message-ID: <19961212.193832.9647.19.km1h@juno.com>

Hello Jerry,

Honest, commercial reclaimers can be found in the Yellow Pages. It still pays to shop around if you have a lot of scrap and the time.

I recently turned in a small trash barrel of similar items going back 20 years or so. All carefully trimmed, etc. Prices quoted in this area were all within 7% of each other but I had over 40 pounds of the average to better stuff and cleared over $800. A friend of mine scraps old mainframe type computer boards and gets up to $28 a pound for the top stuff.

I'm in the greater Boston area and a lot of scrap is available from the high-tech industry so the reclaimers are quite competitive.

GL............Carl

From boatanchors@theporch.com Thu Dec 12 10:15:46 1996
From: lkayser@rideau.net (Larry Kayser)
Subject: Grounding of BA rigs and RF Noise.
Message-ID: <199612121443.JAA03148@mail.peterboro.net>

Greetings:

I had an experience the other day and I would like to share it with you.

I was driving in downtown Ottawa the other morning and K6XK was loud and clear, 59+ on 7020. I had a sense that being in downtown this was not really rational, the nosie level was just to low. When I came out of the building I visited the signal was now literally buried in Noise!

I mulled over the issue. I got out and looked around my little truck. I noticed a piece of old wire of some sort sticking up from the ground and touching my truck.

I removed the wire, the radio went silent!

I put the wire back and the radio went noisy!

I moved to a new location, a block away, silent. Took a clip lead from the glove compartment, cliped it to a metal no parking sign and the truck door. The signals became noisy.

It is hard to isolate a BA from gound, direct or through significant capacitance to ground. If your in a really bad location some agressive work with AC line filters might be in order.

Larry
va3lk / wa3zia

From boatanchors@theporch.com Thu Dec 12 18:54:42 1996
From: Peter Ferrand <petef@sprynet.com>
Subject: Re: Grounding of BA rigs and RF Noise.
Message-ID: <3.0.32.19961212113834.00687138@m3.sprynet.com>

At 08:43 AM 12/12/96 -0600, you wrote:
  I
>noticed a piece of old wire of some sort sticking up from the ground and
>touching my truck.
>
>I removed the wire, the radio went silent!
>
>I put the wire back and the radio went noisy!
>
>I moved to a new location, a block away, silent. Took a clip lead from the
>glove compartment, cliped it to a metal no parking sign and the truck door.
>The signals became noisy.

In addition to the rather glib response of "grounds aren't" I am reminded of a conversation I had at one of the Dayton Hamventions a few years ago with a representative of the local power company following his demonstration of arcing and sparking.

This worthy spoke about ground currents and what the power company guys call "stray voltage". The gist was that power transmission systems use the earth ground and there is noise induced in that earth from such use.

Presumably one should try to isolate the antenna system and the receiver from those ground effects. Various such circuits have been published over the years; a few I've tried with no noticeable effect. I am wondering if the ground noises get re-radiated, only to get picked up by wire antennas parallel to the ground.

In a properly designed BA-world, there would be no rapid state transitions and consequently a lot less noise.

-Pete
WB2QLL
petef@sprynet.com

From boatanchors@theporch.com Thu Dec 12 23:53:41 1996
From: John Wieder <jwieder@gunnison.com>
Subject: heath pointer needed
Message-ID: <199612130500.WAA05614@gunnison.com>

BA Land:

Would anyone happen to have a spare white pointer that was used behind the big knobs of the DX40, etc? I am need of one to finish up the restoration of my DX40. Would be happy to reach some sort of price, trade, etc. Tnx in advance and for everyone's help throughout 1996. 73

John WA0JYJ jwieder@gunnison.com
Colorado

From boatanchors@theporch.com Thu Dec 12 10:15:46 1996
From: oranges@FRB.GOV
Subject: Is Hollow State News still printed?
Message-ID: <2b01f580@cclink.frb.gov>

Hello Ba'ers,

Is Hollow State News still printed?
If not what issue did it stop at,I
bought a bound set of 1 to 30 at a hamfest
this year, issue 30 was dated some time
in 1993,was this all the issues?

If it is still going, can some one
email me with subscription Info.

Thanks
Fred Bohner Arlington,VA

Email address is oranges@frb.gov
MESSAGE FOR PERSONAL USE NOT OFFICIAL USE

From boatanchors@theporch.com Thu Dec 12 18:54:42 1996
From: "Benjamin D. Hall" <BDHall@ghgcorp.com>
Subject: Re: Is Hollow State News still printed?
Message-ID: <32B0345D.1AD2@ghgcorp.com>

oranges@FRB.GOV wrote:

> Is Hollow State News still printed?

Yep, I received number 35 (I think) a few months ago...

73,
Ben
--
Benjamin D. Hall, Houston Texas - Junque collector extraordinaire.
E-mail: BDHall@GHGCorp.com -or- Benjamin.D.Hall1@JSC.NASA.GOV

From boatanchors@theporch.com Thu Dec 12 18:54:42 1996
From: merrigan@ee.ualberta.ca
Subject: Re: Is Hollow State News still printed?
Message-ID: <m0vYFc0-000CvgC@knuth.mtsu.edu>

WHICH: <32B0345D.1AD2@ghgcorp.com>
WHEN: 12/12/96 at 10:42 AM (SystemDate:mst)
WHO: "Benjamin D. Hall" <BDHall@ghgcorp.com>
WHAT: Re: Is Hollow State News still printed?.

I say:

>> Is Hollow State News still printed?

>Yep, I received number 35 (I think) a few months ago...

I just received #39 yesterday: Summer-Fall 1996.

Shaun

--
----
merrigan@nyquist.ee.ualberta.ca
Electrical Engineering Student
University of Alberta
Edmonton, Alberta, Canada

"Do you guys know what a switch is ?"

-EE professor (Introductory Microprocessors) after
observing dumbfounded looks

From boatanchors@theporch.com Thu Dec 12 23:53:41 1996
From: paul Veltman <veltman@netcom.com>
Subject: KWM-2 intermitant frequency shift.
Message-ID: <Pine.3.89.9612122146.A5377-0100000@netcom2>

Hi Gang,

I have an interesting problem to present to the group before I rip into this little bugger. I have an intermitant frequency shift. It will always shift down 15 kc and stay there for a while. Then it may shift back while I'm operating, or if not, then next time I turn on the radio, it will be where it's supposed to be.

Before I start looking into this, has anyone experienced this before? It's been about 4 months since this shift last occured, so this is not a frequent problem.

Any advice would be appreciated.

73

Paul WA6OKQ

From boatanchors@theporch.com Thu Dec 12 23:53:41 1996
From: lkayser@rideau.net (Larry Kayser)
Subject: Memories of the CW Auto Alarm
Message-ID: <199612130430.XAA13915@mail.peterboro.net>

Jeffrey:

>I'm looking to borrow the book WIRELESS AT SEA, THE FIRST FIFTY YEARS,
>by Harry Edgar Hancock (1950).

I have had amazing luck by just asking the local Library to search for a book and then ask for an "Interlibrary Loan", it is not fast but sure does work. I have been able to get some very rare books, two recently from a library in Indonesia and one from China for instance

>I'm also looking for the article ALARM SIGNALS ESTABLISHED, which
>appeared in the Proceedings of the Merchant Marine Council, Vol. 19
>(Feb '62). This article discussed the (new at that time) CW Auto
>Alarm signal (twelve 4-second dashes with 1-second silence between
>dashes, which when decoded by a ship's 500 kc rcvr, activated alarm
>bells in the radio shack, bridge, and radio ops stateroom; this was
>to now preceed all distress calls as per the 1960 ITU conference).

When I was in our Arctic we had some LST, Landing Ship Tanks from WW II that had been fitted with merchant marine radio sets (Marconi) post WW II. I took some time to get the LF stuff going, including the CW Auto Alarm. This thing was a mechanical nightmare. I left it running when I was aboard, which was every other day to get the OM's Ice RECON messages for him.

In the middle of the night one fall some nit set the dam thing off by sending the sequence on 500. One thing I had not done was test what the heck it was connected to outside of the radio room. I was asleep in the Radio Room, when it went off. The OM went off a millisecond or two later, woke up the hole ship, with a General Alarm, he was cursing me a week later as his ears were still ringing from the ALARM over his bunk. The rest of the Officers wern't much better but at least for them the ALARM was in the hall outside their bunks.

BTW, you did not have to receive the whole message, just about 4 or so of the dashes to set it off.

Larry
va3lk / wa3zia

From boatanchors@theporch.com Thu Dec 12 10:15:46 1996
From: john <johnmb@pop.mindspring.com>
Subject: Micamold pics on the web
Message-ID: <199612121409.OAA76282@mule1.mindspring.com>

I've uploaded some pictures of the Mighty Micamold XTR-1 as well as my Lysco 600, if anyone is interested.

Take a jump to

```
        http://www.mindspring.com/~johnmb/

        and bop over to the Radio Room...take the first item in the list
to peek at them.

        Happy holidays to everyone!
        /John



+-----------------------------------------------------------------------------+
                  John Brewer                 johnmb@mindspring.com
                  WB5OAU/4                 AMI #24
  Vintage Gear web page: http://www.mindspring.com/~johnmb
+-----------------------------------------------------------------------------+



From boatanchors@theporch.com  Thu Dec 12 18:54:42 1996
From: km1h@juno.com
Subject: Re: NC-101X ??
Message-ID: <19961212.193832.9647.5.km1h@juno.com>
```

National made many custom receivers in the prewar thru roughly 1960 era for big customers. These were often a minor change of a standard offering requested by the customer for "identity" and/or operational purposes. Some of the largest customers were in the Steamship companies; both passenger and freight. Others were built on a military PO and then shipped en-masse to another country. Many of these special customers were still able to receive product many years after the "official" discontinuance.

Heck, during or after WW 2 the US found Japanese versions of the HRO, PW dial and all!

I doubt that any publication could document all of the variants, and Im certain that National was not unique.

Sorry I cant be more specific Jim; I have very little of that documentation remaining.

73..........Carl

On Tue, 10 Dec 1996 08:21:13 -0600 (CST) jcondon@nrao.edu (Jim Condon) writes:

>Please help me identify a radio which doesn't appear in Moore's book
>on communication receivers. Outside, it looks just like his NC-101X

>S-meter "variation" except that it has a noise limiter control and the
>NC diamond logo has been moved to the upper right corner of the front
>panel. Inside, the circuit and layout is that of an NC-101XA except
>that the filter crystal is mounted on the left side of the first IF
>transformer, NC-101X style. Yet the NC-101XA shown in Moore has a
>fancy front panel and directly calibrated frequency dial, not just the
>plain black wrinkle panel and HRO-type PW dial that my receiver has.
>
>Have you seen (either in ads or real life) such an NC-101X / NC-101XA
>hybrid? When did it appear? What should it be called? Was it common?
>
>Jim Condon, AD4YM
>jcondon@nrao.edu
>

From boatanchors@theporch.com Thu Dec 12 10:15:46 1996
From: vancleef@netcom.com (Henry van Cleef)
Subject: None too shabby
Message-ID: <199612120820.BAA15091@netcom23.netcom.com>

Well, I'm taking a break from working on the current project. This one is "solid state" from 1948.   No tubes at all. Just a bunch of precision resistors and capacitors, some super-low-resistance switches, a tuning fork 1 Khz. oscillator, and four slidewires (precision potentiometers).

This one's a real classic, a really hard core blue collar museum piece. It walked in the door yesterday, announced it would like to come out of retirement, get cleaned up, and go back to work. Yup, you guessed it, a genuine bonafide General Radio 650-A Impedance Bridge. This jewel probably takes the prize for longevity of production (26 years, according to GR), and every self-respection "radio" design and manufacturing shop had one. This one was refitted with a 650-P1 power supply/oscillator/amplifier around 1955.

It has been getting my "minimum noxious chemicals" cleanup treatment. The front panel was dirty enough that you could not read some of the engraved markings, and the slidewires were thoroughly gummed up with petrified lubricant. With a notebook alongside the project, getting notes for "the quiz that will be given" (i.e. putting it all back together), I took off all the knobs and tossed them into a garboon with a soap solution in it. It was obvious that the front panel needed to come off, which is a real adventure. This thing has no "chassis" as such. Everything is mounted on the front panel, and there are two bakelite panels inside that have all the components that aren't mounted directly on the front panel. Some work with a large

(100 watt) soldering iron and solder sucker, and off came the five twin binding posts and single post, to go into the soap solution. Each of the four slidewires mounts with three screws, so they came off, and their markings recorded so I could put them back into the right position. Before removing the knobs, I noted the indexing so I can get them back on in the same position. The meter came off from the front, and removing four bolts and two shaft nuts allowed the whole electrical assembly to drop away from the panel. The little spring-loaded fiducials were all gummy, so they came off the panel.

The front panel, which is a heavy aluminum plate embossed (or "coined") with an alligator texture, got my standard front panel treatment. A wash-down with soap and water, followed by a scrubdown, using a dishwashing brush and ammonia, then another soap-and-water scrubdown. The original paint was semi-gloss, so after the panel dried, it got a dose of automobile polish, mostly to make it look even. Someone had etched in a number---none too neatly. That got filled with water-washup flat black acrylic paint. Now you have to look carefully to see it. The panel markings were engraved in the aluminum through the paint, after it was painted, so you don't want to think about repainting one of these panels. Fortunately, spot repairs are easy to do. The markings, of course, magically reappeared with the washdown and scrubdown. It is now ready to have components reinstalled on it.

After soaking in the soap solution for 24 hours, the binding posts, knobs, and other hardware came out of the soap solution, and got a good rinsing. The knobs (all Dakaware bakelite) came back gleaming after some rub-a-dub-dub with automobile polish.

Now comes the one nasty solution I do use. I prepared a small pan (3 inches dia) of lacquer thinner. The binding post metal parts, and the fiducials, all got dunked in this. Each of the four slidewires came apart, one at a time, to avoid mixing parts, by removing a setscrew collar and sliding the shaft out. I wiped out the old grease, dunked the metal parts in lacquer thinner, and relubed the bronze bushings with a little (just a light film does it) Lubriplate white grease, and reassembled. The main slidewire has a linearity cam in it, which also got cleaned and regreased. The nickel-plated fiducials and binding posts got a polish job with Brasso, and look like new, and the fiducials now swing freely on their pivots.

Getting ready to reassemble means reading the notes. I have an area on the bench that has groups of small mounting hardware items---my notes tell me what goes with what, what gets spacers, what gets lockwashers, stacking order, etc. Since reassembly is in the reverse order of assembly, all I have to do is start at the end of the notes and work toward the beginning. The whole idea is to set things up so that you have a Heathkit project to put it back together----although nothing resembling a 650-A bridge ever came out of Benton Harbor. The end result will be a "suddenly, it's 1948" remanufactured 650-A, ready to soldier on for another fifty years.

I sense that a lot of people are reluctant to do serious disassembly and reassembly. Yes, it involves a lot of work, and it behooves one to go slowly and do a thorough job. But the end result is a like-new box that it ready to come back to life. Really first-class stuff like GR equipment is, I think, easier to work on than some of the mass-manufactured stuff. Inside, this bridge is nothing short of impressive, the way it is built. It is really a beautiful piece of machinery, as well as a good electrical device.

It has occurred to me that this 650-A, which is a real workhorse, and can serve as a good standard for a lot of other things, might do well to go past a "traceable to NIST" calibration check. I don't know if there are any cal shops in the Denver area prepared to deal with a box like this, and do a good job of it. The only adjustment is the main slidewire cam. The rest of the job is to make up charts of actual values vs. dial marking values. Anybody got any suggestions on something like this?

--

===
Hank van Cleef
E-mail vancleef@netcom.com or vancleef@tmn.com
===

From boatanchors@theporch.com Thu Dec 12 18:54:42 1996
From: BEN NOCK <106312.1035@compuserve.com>
Subject: Picture exchanges
Message-ID: <199612121759_MC1-D0D-60E2@compuserve.com>

I have just acquired a program called WinCode
which converts graphical pics into text, UUE format,
so that it can be 'attached' to internet mail.

If anyone would like to try and swap some pics by this format
I would be happy to try. I can scan pics here so would be
able to send many pics of British sets and others.

Let me know if interested.

Ben G4BXD

MILITARY WIRELESS IN THE MIDLANDS

From boatanchors@theporch.com Thu Dec 12 23:53:41 1996
From: Dave Metz <metzd@cfw.com>
Subject: R390(nonA) user list
Message-ID: <2.2.32.19961213020556.00aac218@milo.cfw.com>

Per my post a week ago it would look like we have 24 of these units on the group They are:

Bill Sorsby <bill.sorsby@dlep1.itg.ti.com>	1- Collins
Dave Adams <adamsclan@netgate.net>	1 Motorola
Michael Tallent <mtallent@concentric.net>	1 Collins
KA9EGW@aol.com	1 Collins
Gary Taylor <wb8bem@hiwaay.net>	1 Collins
gpewitt@execpc.com	1 Unknown--no name tag
Dave Metz metzd@cfw.com	3, (2 Collins, 1 Motorola)
'dgibbs@rational.com'" <dgibbs@rational.com>	1-Collins
ken brookner, n5lpi brooknerk@acm.org	1 unknown(not at qth)
"Herb Holeman" <choleman@ptialaska.net>	1 Collins
Matt : Radiomatt@aol.com	2- make not disclosed
Tom BRIDGERS@gonzo.ccl.org	2 Collins, 2 motorola,1 Motorola made for Collins
knudsen@gvmail.ih.lucent.com	1 Motorola
"Herb Holeman" <choleman@ptialaska.net>	1 Collins
Randy Zelick <h2rz@odin.cc.pdx.edu>	1 not the best of shape
"Benjamin D. Hall" <BDHall@ghgcorp.com>	1-collins
JPevner@aol.com	1Motorola

Variation: R391 AutoTune version

Andy Howard, WA4KCY" <102452.362@CompuServe.COM>
Dennis Gibbs

I wasn't sure what would happen with this post. There is always the known interest in the 390A but I have virtually never seen anything in Hollow State Newsletter, ER, or other publications concerning this wonderful boatanchor. It's actually quite exciting to find that there is quite a few units out there. If it weren't for the shipping cost, I cannot believe that Fair still has any left @ $180. Everyone who reported above indicated that they sure didn't want to part with their units so I think that is testimony to this great unit. I am very prejudiced because of a ton of hours working on mine but when the 390 has all 6 of those IF cans lined up correctly, it takes a pretty good ear or test equipment to tell the difference with the

390A and its mechanical filters. IMHO, the lack of selectivity is way overblown. Try one, you'll like it !

Anyway there are two additional questions surfaced more than once by the respondents. I have tried to answer these based on my limited experience.

.

ARE THERE ANY MODULES INTERCHANGEABLE TO THE 390A?

Answer: No, though the PTO could be adapted and I think Bill Sorsby did this successfully. One possible exchange--- the IF strip in the R390 and the IF strip in the R725. Physically, it should match up but there are even fewer R725's than there are R390's to run such a test and I would think that one would have to rewire a little bit to handle the required 26v the 725 provides with that extra transformer..

HUM PROBLEMS

At the risk of sounding like an expert (which is about as far from the reality as one can get) because this unit does not use a choke and only a 8MF 600v oil filled cap for filtering(no Electrolytic) in the power supply, I would be suspect of the 6082 Voltage regulators. Next would be the DC amp, and then one of the 26Z5's. Also, I once experienced a heater cathode problem on one of the audio tubes which gave horrible hum problems. When everything is working correctly, a scope put to the 180v test point and adjusting the hum control will give a flat line on a scope.

TUBE AVAILABILITY

As near as I can tell, other than the getting harder to find 26Z5 rectifiers, the only potentially hard to find is the 6082. Antique Electronic has them for something like $11 ea and if you want to place a $100 order to New Sensor corp as Dennis Gibbs did a few months ago, they're something like $5 ea. I wouldn't expect that it will really become a problem because the 6082 is the 26v version of the 6080 and as near as I can tell, the only use EVER for it was in the R390. Thus, I don't think the supplies will dry up that fast..

I hope this helps all of us proud R390 users to easier solve future problems and know that we are not alone! (Just a minority)

73's dave

From boatanchors@theporch.com Thu Dec 12 10:15:46 1996
From: spr@earthlink.net (Scott Robinson)

Subject: Radiotron 4th for sale
Message-ID: <v01530503aed4ea96cd26@[153.34.196.14]>

Folks,

For Sale:

Radiotron Designer's Handbook 4th edition (the thick one). Cover condition 7-8 on a 1-10 scale. Insides jes' fine, including lots of wonderful information.

Price $80 plus UPS. I am located near San Francisco.

Regards,

Scott Robinson
spr@earthlink.net
"Wait'll he puts on his stereo headphones..."

From boatanchors@theporch.com Thu Dec 12 18:54:42 1996
From: km1h@juno.com
Subject: Re: Reference Files
Message-ID: <19961212.193832.9647.13.km1h@juno.com>

Good info and some great common sense Bill. The connection between the winding wire and the flexible lead to the outside world is a major failure point. Chemical reaction from the solder???

I initially became involved with selling transformers when I needed replacements for those potted, square can units used in 1930's era auto radios. Found a place that would make them for me at a reasonable cost and one thing led to another.

73...........Carl

From boatanchors@theporch.com Thu Dec 12 23:53:41 1996
From: km1h@juno.com
Subject: Re: Reference Files
Message-ID: <19961212.193832.9647.4.km1h@juno.com>

Tnx for the nice response Bobbi.

After 4 1/2 days we finally got commercial AC power back.

Since I had a generator and a large house, this was the focal point for a lot of neighbors! Just no time to play on the computer and now I just retrieved 626 messages from various lists, etc.

That was good info on Thordason...tnx a lot. I hope that someone in management has the forethought to preserve all of those specs/drawings. I have witnessed too many companies eventually going under or sold and then all that old paper gets thrown out. It is so easy to scan that data and store on a computer that I hope someone takes the initiative.

I will probably reply to a self-styled expert on everything in a day or so....whenever I get this msg pile read.

Radiokit still carries some Jackson Brothers parts. The problem there is that Jackson was sold around 1991 or so, I forget exactly, and moved lock, stock and barrel to another section of England. Most of the former employees were terminated. Immediately, the new owners decided to just about double the price on everything. At the same time the UK Pound was on a rebound after almost reaching par with the dollar.

Now comes the fun part. The new owners could not find the drawings to reproduce parts as they ran out of inventory! It did not take long for them to move back to Croydon and rehire many of the former employees. But by that time the damage was done, the price increases were scaled back a bit but the Pound was now on a real surge.

I had an opportunity to visit Jackson Bros. during a 1986 trip to the UK. You would think I was in 1948 or so. Very skilled workers in a primitive enviroment. Sort of reminded me of an interview I had at James Millen Co., around 1966 or so when National was having union problems, a very depressing facility and similar recollections. Thankfully, National was back and running shortly thereafter.

The 4511/DAF, 4511/DRF, 6020 miniature 10:1 drive, and the 4103/A are still available at Radiokit. Also many of the APC style 4667 series of capacitors (with 1/4" shafts) are still around.....all at 1990-91 prices.
 I really dont know if it is worth it to import the 4489/c again.......the 1997 selling price could be well over $40, once shipping and duty are factored in, and that is on a quantity buy.

73 for now............Carl

From boatanchors@theporch.com Thu Dec 12 10:15:46 1996
From: pmills@A.crl.com (Phil Mills)
Subject: Re: Reformation
Message-ID: <199612121225.AA17374@A.crl.com>

```
Dick, I always use a Heath bench DC supply that will go up to 400 vdc.
I slowly increase the voltage keeping the current under 10 mils until
I reach the limit of the supply or the rated limit of the capacitor.
After you've done this for a while, you will develop a feel for the
condition of the capacitor based upon the time it takes...that is,
how fast you can advance the voltage and still keep the current somewhere
below 10 mils.  I usually let it sit for a few minutes and the max
voltage and see how far the current drops....if it drops down to just
a milliamp or two then I know I got a really good cap....it it hangs
around 10 mils, then I've got a potential problem.

73, Phil

>
>I got no answer to my last inquiry about reforming condensers,
>probably because everyone figured someone else would answer the
>question.  But the time is approaching when I'll want to bring up some
>never-before-used 50 year old equipment, and I'd like to do it right.
>All guidance in this arcane art will be appreciated.
>
>                              Dick Dillman
>                              WPE2VT W6AWO
>                         <ddillman@igc.apc.org>
>                        Collector of Heavy Metal:
>                  Harleys, Willys and Radios Over 100lbs.
>
>
>
Phil Mills, AB5TH            *****    *****
pmills@a.crl.com
281-992-5762  days
Friendswood, TX     (south of Houston)



From boatanchors@theporch.com  Thu Dec 12 23:53:41 1996
From: vancleef@netcom.com (Henry van Cleef)
Subject: Re: Reformation
Message-ID: <199612130403.VAA04407@netcom21.netcom.com>

As Dick Dillman discourses
>
>
> I got no answer to my last inquiry about reforming condensers,
> probably because everyone figured someone else would answer the
> question.  But the time is approaching when I'll want to bring up some
> never-before-used 50 year old equipment, and I'd like to do it right.
> All guidance in this arcane art will be appreciated.
```

>

Part of my "ring-out" of an unknown piece of equipment is to check the B+ circuit independently. This means unsoldering a few connections, generally in the filter area, so I have the caps and rectifier output separated already.

To bring the caps up to speed, I simply use the power supply. Hang a suitable 1 watt resistor in series, assuming that the cap is a dead short, and that you are going to dissipate a watt in the resistor. That generally means around 390K, and 1 ma. Hang a voltmeter across the cap. Turn on the power, and see what happens. You may get only 15 volts across the cap, but it should start to increase. Once you get up to 50 volts or so, put in a smaller resistor. Keep doing this to keep the current between 1 and 2 ma. If I've got several caps, I may just hang them in parallel across the current source and boost the current a bit.

The whole idea is to keep the current down so that you don't get the cap hot inside. Once you have the voltage up a ways, it's worth checking to see if the cap has any capacitance on low voltage. I've seen no correlation between how quickly the cap reforms and whether it has dried out or not. The maximum voltage the cap is ever going to see is the no-load condition on the supply, so once you have the caps all up at the surge voltage level, you've got them ready to use.

I think from time to time about lashing together a constant current power supply, with a pot to control the current, but am too lazy to do much of anything about this.

While the current-limiting resistors are in place, you can hang the rest of the B bus in the circuit and see if it is leaking any current. Disconnect any bleeder resistances or VR tubes first. Measuring voltages across resistors is a good way to find leakages in things like capacitors.

By the way, I don't bother with Variac hot schemes. Some ohmmeter work beforehand, and some current-limiting resistors tell me what I need to know before I hit the thing with the full "go." Also, a lot of failures don't show up until you've got near full voltage on a circuit.

--

==
Hank van Cleef
E-mail vancleef@netcom.com or vancleef@tmn.com
==

From boatanchors@theporch.com Thu Dec 12 10:15:46 1996
From: johnz@earthlink.net
Subject: Self Shorting Power Triodes in Storage?
Message-ID: <199612120902.BAA17898@switzerland.it.earthlink.net>

Over the past year I have seen a number of discussions here regarding the factors which affect tube life and the cause of failures. Here is something I haven't heard discussed: In time I have had a number of transmitting triodes pass through my hands from various sources. The good ones have been given to friends who may have needed them for various restorations. I have been left with the bad ones. Each of these are "NIB" and show no signs of ever being used: a 15E, a 3C24/24G, a HK-24 and a 100TH. They are all of the same type of construction where a grid, supported by a single lead, surrounds the filament structure supported by its two leads. Every one of these has a short between the filament and the grid! Only a portion of the filament glows (much brighter than normal) because the grid structure shorts part of the filament. In fact, in two of the tubes you can see the filament structure, leads and all, leaning in the direction the short occurs. These tubes, of course, could have been bad this way when they were put in the box 50 years ago; but is it also possible that, after 50 years of laying on their sides in the bottom of a junk box, the filament structure could have sagged into the grid? Should we be storing such tubes in the vertical position to prevent this from happening? (If so, another 50 years on the "other side" should undo the damage!) I am not proposing that just having 4 tubes of the same construction obtained from different sources over time and all having the same fault suggests a statistical correlation but, if others have come across the same type of failure, it would be interesting to know about!

John Zitzelberger W6GL
Thousand Oaks, CA

From boatanchors@theporch.com Thu Dec 12 18:54:42 1996
From: Marco Bruno <spin@inrete.it>
Subject: Re: Self Shorting Power Triodes in Storage?
Message-ID: <9612122009.AA03059@inrete.it>

I have heard the same about big triodes for induction heating,
like Philips TB 5/2500. Some time they go in short circuit,
after only some five years of storage. I have no precise ideas
about the cause of the failure.

Marco Bruno - spin@inrete.it

Turin - Italy

From boatanchors@theporch.com Thu Dec 12 18:54:42 1996
From: Sandy W5TVW <ebjr@worldnet.att.net>
Subject: Re: Self Shorting Power Triodes in Storage?
Message-ID: <19961212215743.AAC20984@LOCALNAME>

At 08:05 PM 12/12/96 +0000, you wrote:
>I have heard the same about big triodes for induction heating,
>like Philips TB 5/2500. Some time they go in short circuit,
>after only some five years of storage. I have no precise ideas
>about the cause of the failure.
>
>Marco Bruno - spin@inrete.it
>
>Turin - Italy
>
>

I have noticed that tubes like the 100TH, 250TH, 24G, 4-65, 4-250, 4-400 have
a relatively very brittle filament structure. It seems like a lot of these
at some time were roughly handled. You can cause some of these to short out
easily by dropping the carton, although it may be well padded, a few feet.

Some shorts are believed to be caused by vibrations of a peculiar
frequency during transport of the tube.   Tubes like the 24G, 25T, 4-65 seem
to survive better if the are dropped base down or base up, rather than
sideways. Just some observations, and some theories heard over many years.

73
E. V. Sandy Blaize, W5TVW
"Boat Anchors collected, restored, repaired, traded and used!"
417 Ridgewood Drive,
Metairie, LA., 70001
ebjr@worldnet.att.net
Looking for: ELMAC PMR-7/PMR-12, Hallicrafters SR-75, 860 tubes

---

From boatanchors@theporch.com Thu Dec 12 23:53:41 1996
From: David Cooley <cooldave@ipass.net>
Subject: Re: Self Shorting Power Triodes in Storage?
Message-ID: <1.5.4.32.19961213051609.00690a38@mail.ipass.net>

At 02:05 PM 12/12/96 -0600, you wrote:

>I have heard the same about big triodes for induction heating,
>like Philips TB 5/2500. Some time they go in short circuit,
>after only some five years of storage. I have no precise ideas

>about the cause of the failure.

If they are stored on their side, (horizontal), most power tubes will either short, or arc internally after long term storage... if you stand them up in the operating position during storage, they should remain good indefinitely.

Later,
Dave

```
=================================================================
David Cooley           A.K.A. N5XMT           cooldave@ipass.net
http://www.ipass.net/~cooldave/
=================================================================
```

From boatanchors@theporch.com Thu Dec 12 23:53:41 1996
From: "Barry L. Ornitz" <u856010@eastman.com>
Subject: RE: Silver Plating
Message-ID: <Pine.ULT.3.91.961212205230.26564D-100000@dua150.kpt.emn.com>

On Wed, 11 Dec 1996, Richard Hager wrote:

> When I hit 'reply to' on any of Barry's messages, they bounce back
> undeliverable, so I'm posting it here in hopes of it getting through.

Well, I'll answer here because others might benefit from the same information. If you get mail directly from me, you should see a "Reply To:" line in the RFC-822 headers. This is how you should contact me _directly_. When my posts go through Phil's system (theporch), the listserv strips the "Reply To:" address and posts my "From:" address. It adds a "Reply To:" address of its own, which is the mailing list. Outgoing mail from Eastman goes through our corporate firewall system where I am known as <ornitz@eastman.com>. Unfortunately, all internal company mail must use my employee number, including anything I send through the firewall to an external site. Our system administrators feel that correcting the problem with outgoing mail is too much of a bother so I am stuck with this. Incoming mail, however, is translated properly and forwarded to my other accounts. Go figure! This is why I always include my correct address in my signature. Everyone should do this, especially those with AOL or sometimes JUNO accounts which quite often strip addresses. Put your address in your signature but be concise. Long signature files, I find offensive and a waste of bandwidth - especially with frequent correspondents. I make it a point to always look at both the "From:" address in any message and the signature. Quite often they are different, especially from people posting from corporate sites like I do.

> > For electronic applications, like VHF/UHF cavities where silver plating

> > can make a difference in performance, the amount of silver needed is quite
> > small. The silver is there more for tarnish protection than as a highly
> > conductive surface.
>
> In looking at skin-effect graphs, the copper and silver lines are extremely
> close together all across the graph. I've often wondered how silver plate
> could make a significant difference. But every piece of classy gear I've
> ever seen has silver plated RF sections.
>
> I concluded that it must be because most cavities are made of -brass-, not
> copper. And there may well be a big RF resistivity difference between silver
> and brass. Although, funny enough, many graphs don't seem to include
> brass...
>
> Anyway, in your above statement, you seemed to imply that silver does improve
> performance, but then say that it was mainly for tarnish protection. So that
> left me a little confused. Improve performance vs what?
>
> Also, I've seen plenty of tarnished silver cavities, etc... I assume it's a
> sulfide on the silver vs. an oxide on copper. Is the silver tarnish less
> harmful to an RF ckt than a copper oxide? And what is the 'dulling' that
> shows up on old brass? Also copper oxide? Or something related to one
> of the other constituents in the brass?

You are certainly on the right path here, Richard. At higher frequencies, the skin depth becomes less and less. At higher microwave frequencies, the skin depth can become thin enough that silver plating does make a difference with its higher conductivity. At lower frquencies, like UHF and below, the silver plating is often a small portion of the skin depth so its effect is much less. But the actual difference between silver and copper is relatively small in their conductivities and aluminum is not far behind.

Material	Resistivity x 1E6 ohm-cm
Silver	1.62
Copper (annealed)	1.7241
Gold	2.44
Aluminum	2.62
Brass (typical)	3.9 to 7
Zinc	5.8
Nichrome (typical)	100

Since brass is an alloy of copper and zinc, it is easy to see why brass has a higher resistivity than copper. Nichrome, a wire used for wirewound resistors and heating elements, is shown for comparison. Skin depth is a function of the resistivity too being deeper with more resistive materials. Thus it is easy to see why nichrome is not used for making waveguide but that aluminum and copper work quite well, with or without silver plating.

However this is not all the story and Richard has guessed correctly. Bright, shiny copper surfaces oxidize and dull rather quickly. Copper oxides are poor conductors; in fact, certain forms are semiconductors and were used in early solid-state rectifiers. So once the copper becomes coated with tarnish, it is no longer a good RF conductor. Brass dulls mainly by the oxidation of the zinc, which is again a poor conductor of RF.

Aluminum oxidizes almost instantly with a thin, tough oxide layer. This is what protects it from further oxidation. Aluminum oxide is a low loss dielectric so the RF performance of aluminum is pretty good. However you have to get through the oxide layer to make a connection to aluminum. Also the protection afforded by the oxide layer is good only in clean air. With water containing dissolved minerals, or with air containing typical acid pollutants, aluminum can corrode fairly badly. Coupled with the connection problem, this limits its use somewhat. [By the way, stainless steel gets its corrosion resistance from nickel oxide on its surface.]

Silver, on the other hand, is fairly resistant to most acids and it oxidizes rather slowly. Sulfur does attack it fairly rapidly turning it black with a layer of silver sulfide. However, silver oxide and silver sulfide do conduct electricity - not very well, but much better than most other metal oxides. [Tin oxide is one that conducts a little - enough that it is used as a transparent conductive coating for touch screens. Many other oxides become good conductors at high temperatures like zirconium oxide.]

Gold is usually used on connectors because of its extreme corrosion resistance. It is ideal for coating a surface that requires a moving electrical contact like a rotary inductor. Like silver, it is soft, which aids in making a better contact by minute deformation of the surface.

For typical radio circuits we might homebrew at home, silver plating often helps very little over shiny copper. If you cannot keep the copper shiny, however, silver plating will help.

I often use Krylon clear acrylic lacquer to spray coils I have just polished. This prevents most of the tarnishing and since the acrylic has low RF losses it affects the circuit very little.

> > The hobby kits like others have mentioned here (Texas
> > Platers Supply and such) are generally quite adequate. In fact, I have
> > never needed to _electroplate_ silver in any restoration application. I
> > have used _electroless_ silver however.

> This is exactly what I've been looking for, an electroless silver bath, for both brass and copper. The paste rub-down you mentioned sound OK for flat surfaces, but I'd really like to get a liquid bath that I can suspend the part in and perhaps agitate the bath. The parts I have in mind are quite complex topologically, and certainly a coil would be hard to rub down!

Well, to be precise there are two version of "electroless" plating. With silver on copper, some of the copper goes into solution plating out the silver on the surface. Once the surface is coated and the copper is no longer exposed, the "plating" stops.

On the other hand, true "electroless" plating produces silver by a chemical reduction and can do so even on insulators. A silver mirror is a good example. [Many modern mirrors are sputtered aluminum rather than silver.] Decorative plastic pieces covered with shiny nickel are made by an electroless process. Likewise plated-through-holes in circuit boards are made by an electroless process.

You probably do not want to do this for RF parts because the silver coating is produced whether there is surface adhesion or not. Also, by definition, the baths are unstable and will dump their silver onto their container. This is why electroless baths are tricky and have to be made up each time they are to be used.

> Do you have a recommendation as to brand/model for a good electroless bath. I have a reasonable chem facility here, with venting, polypropylene tanks, and teflon heaters. I'm not -too- afraid of nasty chemicals, although the more benign the better of course!

With bright, shiny copper, almost any soluble silver solution will produce a thin silver coating. Spent photographic developer has been used by some. Just remember that silver nitrate (about the only commonly available soluble silver salt) is corrosive, poisonous, and makes your hands black [and it does NOT wash off]. To make matters worse, you probably won't realize you have splashed drops of the solution on you until they begin to blacken and by then it is too late! :-)

I still like the Cool-Amp powder. You can use a Q-tip to apply it to coils and other complex shapes fairly easily. For thicker plating, you will need to do real electroplating.

> Thanks very much in advance for any input you can offer. And once again, no rush on answering.
>
> Richard

I deleted that nasty signature stuff Richard left hanging to the bottom of his post! :-)

73, Barry L. Ornitz WA4VZQ ornitz@eastman.com

From boatanchors@theporch.com Thu Dec 12 10:15:46 1996
From: mack@mails.imed.com
Subject: SP-600 JX17 Weirdness?
Message-ID: <9611128504.AA850413875@mails.imed.com>

Hey y'all:

Ben's post from yesterday made me think of *one* explanation for the IF gain on some and not others. IF you think about it, you really only want one radio of the pair to be adjustable. One radio would be stock and the other would have the adjustment with possible gains both above and below nominal so that you could match the entire range. If you put 2 adjustable radios in the diversity setup you have a more complicated setup problem.

This is just a guess of course.

Ray Mack
WD5IFS
mack@mails.imed.com
Friendswood (Houston), TX

From boatanchors@theporch.com Thu Dec 12 18:54:42 1996
From: "Benjamin D. Hall" <BDHall@ghgcorp.com>
Subject: Re: SP-600 JX17 Weirdness?
Message-ID: <32B0342A.F08@ghgcorp.com>

Hi Ray and list...

> Ben's post from yesterday made me think of *one* explanation
> for the IF gain on some and not others. IF you think about it, you
> really only want one radio of the pair to be adjustable. One radio
> would be stock and the other would have the adjustment with possible
> gains both above and below nominal so that you could match the entire
> range. If you put 2 adjustable radios in the diversity setup you
> have a more complicated setup problem.

I've thought of this too, and it makes perfect sense, but it would make procurement and logistics operations much tougher. You now have to keep track of which radio has the adjustment, and make sure that you have one of each, etc... I would have figured that they would have made them all the same, but this is assuming that the IF GAIN control was a factory installed mod, which I'm not so sure about. Maybe it was a field installable kit? (sure looks like it with the stick-on front panel tag) And therefore only some of the radios got it? And maybe folks only did one of the pair since both radios didn't need the control? But then again, lets say radio A has no IF GAIN control, and due to some reason or another, has a higher gain in the IF stages than radio B that has an IF GAIN control. From what I've seen in the pair I've got, the IF GAIN control appears to be just an attenuator, so with this pair of radios, the IF GAIN control is worthless since you cannot turn up the gain on the radio that has less total gain in the IF stages. Or is the IF GAIN a boost/cut adjustment? It's been a while since I peered over the radio's internals and the schematics...

Thanks and 73,
Ben
(SP-600 nut case, or maybe just a general nut case?)
--
Benjamin D. Hall, Houston Texas - Junque collector extraordinaire.
E-mail: BDHall@GHGCorp.com -or- Benjamin.D.Hall1@JSC.NASA.GOV

From boatanchors@theporch.com Thu Dec 12 23:53:41 1996
From: launerb@crl.com (William H. Launer)
Subject: SP-600JX-17 differences
Message-ID: <v01530504aed67f1d87e0@[192.0.2.1]>

The "I.F. Gain" circuit in my -17 (S/N 17xxx) appears to have been a "depot mod". It's neatly done, but the wiring is routed alongside the laced wire harness, not in it. Also, the panel was modified with a label that was glued on. This might explain why all JX-17's aren't the same.

73, Bill wb0cld

Bill Launer
St. Charles, MO
launerb@crl.com
wb0cld@wb0cld.ampr.org [44.46.66.25]
qrp-l #279   qrp arci #3551
Grid Square EM48RT

From boatanchors@theporch.com Thu Dec 12 23:53:41 1996
From: Tom Norris <badger@telalink.net>

```
Subject: Step-Start (was Re: Tube Life)
Message-ID: <3.0.1.32.19961212204904.006cf130@telalink.net>


>Be sure to mount them with all due consideration for the temp and the
amount of
>heat.  They dissipate a good 2-3 watts, and run around 100 C.  Also, they may
>'turn on' faster than a big tube is going to warm up.  All the pro amps I've
>seen use relays instead, across a big power resistor in the primary ckt,
with a
>30 second delay.
>

Yep. Called "Step Start". Most of the broadcast stuff I have worked on in
the past had the same thing. Funny I dont hear it discussed more here of
some of the other ham/electronic groups. Just a relay with a resistor across
the normally open contacts, with a time delay to turn on in, say 30 seconds.
Only heat generated by the circuit would be in the time between turn on and
when the relay activated, cuz when the delay closes the relay, the resistors
are shorted and no longer in the circuit. Hmmmmm. To be extra safe, could
put a Keystone inrush limiter across the contacts to slowly start, and have
the
relay across IT, so that after the 30 seconds (or whatever) you no longer have
the heat problem with the current limiter.
And it could be done BA style by using a thermal delay relay  like the
115NO30 or such to drive the power relay.

Just a thought.
----------------------------------------------------------
badger@telalink.net
***************
Every morning is the dawn of a new error.
----------------------------------------------------------



From boatanchors@theporch.com  Thu Dec 12 18:54:42 1996
From: Michael Crestohl <mc@shore.net>
Subject: SWAP: Ultra-miniature tubes.....
Message-ID: <199612122300.SAA11688@northshore.shore.net>

Hello Everyone:

I have three sub-miniature tubes - about the diameter of a pencil!  The number
is 5636.  I have no equipment that uses these but I do have a need for spare
tubes like these - numbers are:

5899
```

5718

5644

5787

Will swap one-for-one....

Any takers?

73,

```
    .-.                                                               .-.
   /   \           .-.                                 .-.           /   \
  /     \         /   \       .-.     _     .-.       /   \         /     \
-/--Michael Crestohl W1RC ---/---\---/-\---/---\-----/-----\--mc@shore.net-\--
          \     /       \   /     `-'   `-'     \   /       \     /
           \   /         `-'                     `-'         \   /
            `-'                                               `-'
```

From boatanchors@theporch.com Thu Dec 12 10:15:46 1996
From: "Ray L. Mote" <rmote@rain.org>
Subject: Re: TCS microphone
Message-ID: <Pine.SUN.3.95.961211233816.22994D-100000@coyote.rain.org>

Navy type number was -51004C (basically an RS-38A with a Navy type number imprinted on it). Yes, the T-17 or any other 100 ohm carbon mike should work well with it. Be sure to check that your mike plug is wired the same as the transmitter. There was a period in the early war years when there were two different conventions for wiring the tip and ring. Some folks have tried using a Radio Shack electret microphone (complete with Darlington pair amplifier) in an RS-38A shell, and they report being able to achieve 100% modulation compared to the standard carbon element.

If you can't find an RS-38A, talk to "ABEN", P.O. Box 4118, Jersey City, NJ 07304. I suspect you can get as many as you'd ever want.
<grin>

73.....Ray Mote, K5FKT <rmote@rain.org> Oxnard, CA ex-W6RIC

From boatanchors@theporch.com Thu Dec 12 10:15:46 1996
From: Tom Clarke <fclarke@erols.com>

```
Subject: Re: TCS users, Dallas area BAers
Message-ID: <32AFC1E2.619D@erols.com>

> >I am trying to set up a TCS station and would like advice from any who
> >are currently using the TCS or who have experience.  I am particularly
> >interested in what microphone they used (T-17?) and what type of antennas

> >
>         Well Geez LoooWeeez! Haven't been in Dallas since late Nov.
> (Esystems, Jupiter RD , Garland, round ye olde corner from the defunct
> Tucker site) The common TCS mike in my Nam Nav time experience was a little
> round carbon job so the T17 should work just fine. Same plug for ptt etc. I
> can't remember the nomenclature of said carbon mike but it was a common Navy
> fixture for a long time. Dave Stinson uses one with his ARC-5 set up.

That would probably be the RS-38 microphone.  Later versions were dynamic
RS-38A I think.


>  Ed Zeranski   ejz@marlin.nosc.mil, work
>                ezeran@cris.com      home
>  Wooden Boats, Tube Receivers, Rusty Old Trucks, The Good Stuff!
>
>  This is a private opinion or statement and is nobody's fault but  mine. No
> person,employer,or govt.should try to take credit for  it!


From boatanchors@theporch.com  Thu Dec 12 18:54:42 1996
From: Dave Metz <metzd@cfw.com>
Subject: Re: Troubleshooting IF Cans??'s
Message-ID: <2.2.32.19961212225656.00a90fe8@milo.cfw.com>

A big thank you Hank. However, I am still a little dense between the ears. I
think I can
follow the advice but I seem to have two additional questions that have me
in a quandry.

>For LF coils, get out your trusty HP 200 CD audio oscillator, and make
>your own Q meter.

If IF cans are running in the RF spectrum, why does one need to use the
200CD which is the
audio generator at the 455khz?  Could it also be possible to use a URM25D
with the easily
attenuated signal?

2nd question:
```

Add a bunch of resistance to the output leads (you
>can experiment to get results), and hang a voltmeter across the coil

This is probably like not being able to see the forest for the trees but what is the objective of the resistance so that I would have a clue as to an expected range of resistance? It would seem that an attenuator could be used. Are we in the range of megohms or what should I be looking for as I am adding resistance?

At the risk of again asking too basic of questions, any additional insight would be appreciated

Thanks

dave

From boatanchors@theporch.com Thu Dec 12 18:54:42 1996
From: "Ray L. Mote" <rmote@rain.org>
Subject: Tube life
Message-ID: <Pine.SUN.3.95.961212121447.6833A-100000@coyote.rain.org>

Was looking through the 1942 Editors & Engineers RADIO HANDBOOK (Ninth Edition), and noticed the RCA ad in the back. In addition to the curve of tube life versus filament voltage (they claimed that reducing voltage 15% yielded up to a tenfold increase in tube life for pure tungsten filaments), they had a comment about idle time:

"ROTATE SPARES: Like auto tires, vacuum tubes should not stand unused for long periods. Rotate your spares to assure every bit of service of which they are capable."

Another comment regarding tubes was:

"For heater-cathode tube types, wheree some operating delay can be tolerated, it is a good practice to drop the heater voltage as much as 20% during long or frequent standby periods."

Don't think I've seen any reference to either of these practices in any other source. Nevertheless, it's an interesting approach. I'd hate to be the poor schnook assigned to do the requisite realignment (if any) when doing mass tube rotations, though! (Yeah, I'm rabble-rousing again <grin>.)

73.....Ray Mote, K5FKT <rmote@rain.org> Oxnard, CA

From boatanchors@theporch.com Thu Dec 12 18:54:42 1996
From: Bill Sorsby <bill.sorsby@dlep1.itg.ti.com>
Subject: Re: Tube life
Message-ID: <199612122110.PAA27853@lesol1.dseg.ti.com>

At 02:23 PM 12/12/96 -0600, Ray Mote wrote:

>"ROTATE SPARES: Like auto tires, vacuum tubes should not stand unused
>   for long periods. Rotate your spares to assure every
>   bit of service of which they are capable."

Ray, perhaps you could do a controlled test and let us know just how much extra life you get. Then, the rest of us would be able to decide on the basis of a cost benefit analysis whether to rotate firebottles or not. <grin>

Regards,
Bill Sorsby, N5BU

```
.:*~*:._.:*~*:._.:*~*:._.:*~*:._.:*~*:._.:*~*:._.:*~*:._.:*~*:._.:*~*:.

     __,_,_,___)          _______
    (--| | |             (--/    ),_)       ,_)
       | | |  _ ,_,_        |     |_ ,_' , _|_,_,_, _  ,
     __| | | (/_| | (_|     |     | || |/_)_| | | |(_|/_)___,
    (      |___,   ,__|     \____)  |__,          |__,

                            |                         _...._
                         \  _  /                    .::o:::::.
                          (\o/)                    .:::'''':o:.
                      ---  / \  ---                :o:_    _:::
                           >*<                     `:}_>()<_{:'
                          >0<@<                 @    `'//\\'`    @
                         -->@--*              @ #     //  \\     # @
                        >@>*<0<<<           __#_#____/'____'\____#_#__
                       >*--@<<<@--         [__________________________]
                      >@--0<<<*--@<         |=_- .-/\ /\ /\ /\--. =_-|
                     >*--0<<@<<<@<--        |-_= | \ \\ \\ \\ \ |-_=-|
                    >@--*<<@<>*--0<*<       |_=-=| / // // // / |_=-_|
      \*/          >0--*<<@<>0><<*<@--      |=_- |`-'`-'`-'`-'  |=_=-|
  ___\\U//___     >*--@><0<<*>>@><*<0--     | =_-| o          o |_==_|
  |\\ | | \\|    >@--0<*<<0>>@<<0<--*<@<    |=_- | !     (    ! |=-_=|
  | \\| | _(UU)_ >((*))_>0><*<0><@<<<0<*<  _|-,-=| !    ).    ! |-_-=|_
  |\ \| || / //||.*.*.*.|--@<<*<<@>><0--@</=-((=_| ! __(:')__ ! |=_==_-\
  |\\_|_|&&_// ||*.*.*.*|_\\db//__     (\_/)-=))-|/^\=^=^^=^=/^\| _=-_-_\
  """"|'.'.'.|~~|.*.*.*|     ____|_   =('.')=//   ,------------.
      |'.'.'.|   ^^^^^^|____|>>>>>>|  ( ~~~ )/   (((((((())))))))
      ~~~~~~~~         '""""`------'  `w---w`     `------------'
```

****
bill.sorsby@dlep1.itg.ti.com
Views expressed herein are no one's fault but mine.
****

From boatanchors@theporch.com Thu Dec 12 18:54:42 1996
From: "Benjamin D. Hall" <BDHall@ghgcorp.com>
Subject: Re: Tube life
Message-ID: <32B07842.4550@ghgcorp.com>

Ray L. Mote wrote:
>
> Was looking through the 1942 Editors & Engineers RADIO HANDBOOK (Ninth
> Edition), and noticed the RCA ad in the back. In addition to the curve
> of tube life versus filament voltage (they claimed that reducing
> voltage 15% yielded up to a tenfold increase in tube life for pure
> tungsten filaments)

Hi Ray and list, did they say anything about increased life from running the filaments on rectified and filtered DC versus AC?

I've been curious about this, and there was a ton of discussion about it months ago, but I never saw a conclusion on it. I've seen many ads for things to put into light bulb sockets to make DC for the lamps and how this increases life by 100 times or something outrageous like that. It would seem to me that the fatigue of heating and cooling would be reduced by running on DC rather than AC, but I would think the reduction would be negligable. (Thermal mass concerns, ie: how fast can you heat something up and cool it down to lead to fatigue? And how much reduction do you get running it on DC?) Also, I remember comments saying that AC prevents migration of positively charged ions (or whatever) to one pole and the migration of negatively charged ions (or whatever) to the other pole, and that this migration of ions cuts down on filament life...

Anyone knowing anything concrete? Bridges and big 15 volt 100,000ufd caps are darn cheap these days compared to expensive tubes...

THanks and 73,

Ben
--
Benjamin D. Hall, Houston Texas - Junque collector extraordinaire.
E-mail: BDHall@GHGCorp.com -or- Benjamin.D.Hall1@JSC.NASA.GOV

From boatanchors@theporch.com Thu Dec 12 18:54:42 1996
From: "Terry L. Dobler" <kj7f@micron.net>
Subject: Re: Tube life
Message-ID: <2.2.32.19961212214901.002eae2c@pophost.micron.net>

At 03:27 PM 12/12/96 -0600, you wrote:
>snip<
>I've been curious about this, and there was a ton of discussion about it
>months ago, but I never saw a conclusion on it. I've seen many ads for
>things to put into light bulb sockets to make DC for the lamps and how
>this increases life by 100 times or something outrageous like that.

All this "Thing" is, is a simple diode.   It works by reducing the RMS power consumed by the lightbulb.   Only one side of the sinewave is conducted through the lamp.   It consumes less power, gives off less light, and lasts longer.   I have one in a light in a hallway near the kids bedrooms.   Kind of a night light.   It is on every night and the bulbs last for a year or two.

Terry KJ7F

From boatanchors@theporch.com Thu Dec 12 18:54:42 1996
From: "Ray L. Mote" <rmote@rain.org>
Subject: Re: Tube life
Message-ID: <Pine.SUN.3.95.961212140858.17512B-100000@coyote.rain.org>

On Thu, 12 Dec 1996, Benjamin D. Hall wrote:

> Hi Ray and list, did they say anything about increased life from running
> the filaments on rectified and filtered DC versus AC?

Nope. Nothing at all on that.

73....Ray Mote, K5FKT <rmote@rain.org> Oxnard, CA

From boatanchors@theporch.com Thu Dec 12 18:54:42 1996
From: Morris Odell <morriso@vifp.monash.edu.au>
Subject: Re: Tube life
Message-ID: <32B08802.68F5@vifp.monash.edu.au>

Hi Ben and fellow filamentarians,

>
> did they say anything about increased life from running
> the filaments on rectified and filtered DC versus AC?

I looked into this when I was building a linear amp some years ago. I was using a TB3/750 which is a triode about the same size as a 4/250. It has a directly heated filament requiring 5 volts at 14 amps. I was worried more about the effect of inrush current when applying 5 volts to a cold filament and its effect on tube life, as well as voltage stability operating directly from a mains transformer. The life of a tungsten filament is inversely proportional to the **12th** power of the applied voltage which has the distinction of being the highest exponent in any engineering formula (or so I was taught back in Engineering school).

The popular perception of increased life from DC fed filaments is probably due to the reduced inrush currents imposed by current limiting in DC supplies when a cold filament is first connected. I'm sure that a suitably protected AC supply perhaps with reduced starting voltage for the first few seconds would be just as useful. There's bound to be lots of drivel written about it in tube audio circles as well ;-).

I had a suitable (non-switching) high current 5 volt computer power supply available which was current limited at 20 amps and had provision for Kelvin sensing. It is heavy enough to be a boatanchor itself even though the silicon in it is in the wrong form <grin>. The supply was designed to run from 115 Volts with a ferro-resonant transformer. I found that removing the capacitor and connecting the primary and resonance windings in series gave an almost perfect match for our 240 volt supply. It has worked perfectly (and much quieter) that way.

Because it was DC I looked into the use of DC for power tube filaments. The life issue was not mentioned in any of the books I read but there was some comment about unsymmetrical emission and ion bombardment in filaments run from DC. I suppose this would be manifested ultimately by reduced life although I was more interested in its effect on tube operation. They recommended reversing the supply every now and then (I can't remember exactly at what interval but it was of the order of 100s of hours). I haven't done this as my linear hasn't had so much use but I did arrange the leads so that it could be done. The linear operates in GG with both sides of the filament elevated for RF through a bifiliar ferrite choke. At the cold end one side is grounded and the other is fed with 5 volts DC which is the Kelvin sensing point. It works very well. The voltage applied to the filament on switch-on rises slowly over 3 seconds or so to 5 volts. I'm not sure whether this is due to current limiting or slow charging of the enormous capacitors in the power supply but I'm sure it's protecting the filament from surge current.

73

Morris VK3DOC

```
---------------------------------------------------------------------
Morris Odell                 Victorian Institute of Forensic Medicine
Forensic Physician                  57-83 Kavanagh St, Southbank 3006
morriso@vifp.monash.edu.au                        Victoria,
Australia

Web page: http://www.vifp.monash.edu.au/CFM/staff/mo.html
---------------------------------------------------------------------
```

From boatanchors@theporch.com Thu Dec 12 18:54:42 1996
From: jproc@bellglobal.com
Subject: Re: Tube life
Message-ID: <Chameleon.4.01.2.961212171642.jproc@>

> filaments)
>
> Hi Ray and list, did they say anything about increased life from running
> the filaments on rectified and filtered DC versus AC?

While I can't comment too much about AC vs DC for filament heating, I do know that the maximum stress on any type of filament is exerted at power up time; ie - when the metal goes from cold to hot in millseconds. Years ago, I used to replace chandlier bulbs at the rate of one, every couple of months. After installing a dimmer switch specifically for the purposes of applying power gently, I have only replaced about three or four bulbs in 19 years.

Years ago, TV's used be be fitted with GLOBAR resistors for the purposes of limiting inrush currents. To me, this would indicate that the manufacturers of the sets wanted to improve reliability otherwise they would never add any additional components. If DC filament heating was a better way to go, I'm sure they would have used a diode in the filament string instead of a Globar resistor, since the costs of these two components would be comparative.

Regards,

Jerry Proc VE3FAB
E-mail: jproc@bellglobal.com
HMCS Haida Naval Museum
Toronto, Ontario
'Looking for a 'AN/SRC-501'

From boatanchors@theporch.com Thu Dec 12 18:54:42 1996
From: Morris Odell <morriso@vifp.monash.edu.au>
Subject: Re: Tube life
Message-ID: <32B093F1.321E@vifp.monash.edu.au>

Hi all,

Jerry Proc wrote:
>

> Years ago, TV's used be be fitted with GLOBAR resistors for the purposes of limiting inrush currents. To me, this would indicate that the manufacturers of the sets wanted to improve reliability otherwise they would never add any additional components. If DC filament heating was a better way to go, I'm sure they would have used a diode in the filament string instead of a Globar

A diode in the filament string would not have desired effect as it would run the filaments on half wave rectified ac rather than dc. The rms value is much lower and would not produce the desired temperature. It may also introduce ripple and hum into signal circuits. This would also have the effect of impressing dc current on the mains although I must admit this does not seem to have been a concern in many designs. I have an old Nordmende color TV here that we have used for over 20 years which has a half wave scr power supply. At least it's well filtered and suppressed unlike light dimmers! It imposes dc on the mains and I have often wondered why the supply authorities don't do something about this type of device as it must have a derogatory effect on regulation and transformer heating etc. Microwave ovens are another common source of dc mains loading.

73

Morris

From boatanchors@theporch.com Thu Dec 12 23:53:41 1996
From: Richard Hager <rhager@millcomm.com>
Subject: Re: Tube life

Message-ID: <32B0AE0F.246D@millcomm.com>

Ray L. Mote wrote:
>
> Was looking through the 1942 Editors & Engineers RADIO HANDBOOK (Ninth
> Edition), and noticed the RCA ad in the back. In addition to the curve
> of tube life versus filament voltage (they claimed that reducing
> voltage 15% yielded up to a tenfold increase in tube life for pure
> tungsten filaments)--

Interesting....seems that I saw somewhere that Tek ran their tubes at
6.0v instead of 6.3, but I can't find the reference now.

If Hank is listening... can you shed some light on this one Hank? Is my
memory faulty, or did they use 6.0 in some units?

Richard Hager

+ Ah-ha! Design Group, Inc. -
+ Precision CNC Technology, since 1991 -
+ 612-641-1797, Fax: 612-641-8681 -
+ "I just like to make things" So... -
+ please call Ah-ha! directly for CNC info -
+ http://www.gdic.com/ahha email: ahha@gdic.com -

From boatanchors@theporch.com Thu Dec 12 23:53:41 1996
From: Richard Hager <rhager@millcomm.com>
Subject: Re: Tube life
Message-ID: <32B0AEAB.6116@millcomm.com>

Terry L. Dobler wrote:

> All this "Thing" is, is a simple diode. It works by reducing
> the RMS power consumed by the lightbulb. Only one side of the
> sinewave is conducted through the lamp.--

Hmmmm....that doesn't sound right to me. The power company would go nuts
over that. They NEVER want any DC component to any load. How you
describe it makes sense technically, but I can't see that thing being
allowed on the market...

Richard Hager

+ Ah-ha! Design Group, Inc. -
+ Precision CNC Technology, since 1991 -
+ 612-641-1797, Fax: 612-641-8681 -

+ "I just like to make things" So... -
+ please call Ah-ha! directly for CNC info -
+ http://www.gdic.com/ahha email: ahha@gdic.com -

From boatanchors@theporch.com Thu Dec 12 23:53:41 1996
From: Richard Hager <rhager@millcomm.com>
Subject: Re: Tube Life
Message-ID: <32B0B207.2D40@millcomm.com>

jproc@bellglobal.com wrote:

> Years ago, TV's used be be fitted with GLOBAR resistors for the purposes of limiting inrush currents. To me, this would indicate that the manufacturers of the sets wanted to improve reliability otherwise they would never add any additional components. If DC filament heating was a better way to go, I'm sure they would have used a diode in the filament string instead of a Globar resistor, since the costs of these two components would be comparative.--

I also read Morris's response on this subject with interest. Some comments:

a) I was about to suggest using a Thermistor in the fil xformer primary. This is the modern equivalent of the 'Globar'. But they're pretty quick to turn on.

b) A diode is WAY cheaper than a globar/thermistor! A 1N4004 in 1K lots is about 3-4 cents. Those NTC thermistors are around 40-100 cents.

c) Keystone and several others make the NTC units. They're designed specifically to limit inrush surge. You have to get a part that is sized/matched to your ckt. Also, they didn't call 'em GLOWbars for nothing! These puppy's run hot!

That's how they work. They start out at room temp with a resistance of, oh, say 10 ohms. When you flip the switch, they heat up rapidly due to the big voltage drop across them. At a certain temp, say 70 deg C, the resistance nosedives, down to maybe 1 ohm or even a little less, thus limiting further heating. As long as the load current stays relatively constant, they then stabilize at around 80-100 deg C.

Note that if the load current doesn't stay pretty constant, then using these parts is probably a mistake.

Be sure to mount them with all due consideration for the temp and the amount of heat. They dissipate a good 2-3 watts, and run around 100 C. Also, they may 'turn on' faster than a big tube is going to warm up. All the pro amps I've seen use relays instead, across a big power resistor in the primary ckt, with a 30 second delay.

Hope this helps. PS: Digikey carries the Keystone parts I think

--

Richard Hager

+ Ah-ha! Design Group, Inc.   -
+ Precision CNC Technology, since 1991 -
+ 612-641-1797, Fax: 612-641-8681   -
+ "I just like to make things" So...   -
+ please call Ah-ha! directly for CNC info   -
+ http://www.gdic.com/ahha email: ahha@gdic.com -

From boatanchors@theporch.com Thu Dec 12 23:53:41 1996
From: Morris Odell <morriso@vifp.monash.edu.au>
Subject: Re: Tube life
Message-ID: <32B0D985.75DE@vifp.monash.edu.au>

Hi all,

Richard Hager wrote:
>

> Interesting....seems that I saw somewhere that Tek ran their tubes at
> 6.0v instead of 6.3, but I can't find the reference now.

If this is true I doubt it was to increase life, more likely to reduce hum pick up or drift. I have a 502 which is a narrowband hi gain scope used for physiological signals (200 uv/cm) and it has a regulated DC heater supply to the input stages for this reason. I think it's 6.0 volts but I'll have a look in the manual tonight.

73

Morris VK3DOC
morriso@vifp.monash.edu.au

From boatanchors@theporch.com Thu Dec 12 23:53:41 1996
From: Bob Roehrig <broehrig@admin.aurora.edu>
Subject: Re: Tube life
Message-ID: <Pine.ULT.3.95.961212234108.20352A-100000@admin.aurora.edu>

On Thu, 12 Dec 1996, Richard Hager wrote:

> Terry L. Dobler wrote:
>
> > All this "Thing" is, is a simple diode.   It works by reducing
> > the RMS power consumed by the lightbulb.   Only one side of the
> > sinewave is conducted through the lamp.--
>
> Hmmmm....that doesn't sound right to me. The power company would go nuts
> over that. They NEVER want any DC component to any load. How you
> describe it makes sense technically, but I can't see that thing being
> allowed on the market...

Am I dense or missing something here? What's the difference between having a diode in series with a bulb to dim it and having a half wave rectifier in an AA5 radio? It's not like we are feeding DC back into the power line. The unsymmetrical load placed on the power grid because of only loading down one half cycle would be so minimal it would be unnoticed.

E-mail broehrig@admin.aurora.edu   73 de Bob, K9EUI
CIS: Data / Telecom   Aurora University, Aurora, IL
630-844-4898 Fax 630-844-5530

From boatanchors@theporch.com Thu Dec 12 18:54:42 1996
From: w1nml@juno.com (Lock Pingree)
Subject: RE: URM-25D
Message-ID: <19961212.101729.7031.2.w1nml@juno.com>

Thanks to everyone who commented on my request for tips on repairing this
unit.
The consensus seems to be; to get a hold of a copy of Dallas Lankford's
notes on
this from Ralph Sanserino at HSN. That's just what I"m going to do !

What a great group !   Season's Greetings to all.

Lock Pingree W1NML/7
EX: KB7TQ, N7BCG, F0HXZ, TA1BW
AMI # 639   QCWA # 15033
Phoenix, AZ
w1nml@juno.com

From boatanchors@theporch.com Thu Dec 12 23:53:41 1996
From: lkayser@rideau.net (Larry Kayser)
Subject: W1BCG, TPTG, qrg 1812
Message-ID: <199612130336.WAA12961@mail.peterboro.net>

Greetings:

Just worked W1BCG on 1812 Kc, with the TPTG rig. He was 597 here, although most of the guys were giving him 599 for some reason, guess they don't know what "T" stands for....

I heard a very weak T6 or T7 note on QRG, was that you Bob, na4g? If it was let me know and I will call w1bcg and ask him to look for you.

When I worked W1BCG, at 0305Z he was consistently listening 300 hz up from his QRG, once I got on his RX QRG he came back on the first call.

Rag, oz8ro, if your interested, W1BCG was calling CQ EU at 0300z looking for Europeans on 1835 Kc. I was amazed the W/VE crowd let him do that with NOT ONE SINGLE CALLER, I think that is just great.

I guess 160 still the "Gentlemens Band".......

Larry
va3lk / wa3zia

From boatanchors@theporch.com Thu Dec 12 10:15:46 1996
From: Paul Bernhardt <bern@ppdu.nrl.navy.mil>
Subject: Re: Wierd tube
Message-ID: <Pine.A32.3.91.961212092439.48188A-100000@ppdu.nrl.navy.mil>

On Wed, 11 Dec 1996, Richard Hager wrote:

>
> > The tube contains 80% neon, 20% argon
> > with 1.2 microCurie of krypton-85.
>
> I wonder what the half-life of Krypton-85 is. Only the shadow (Barry) knows...
>

Richard,

For what it is worth, the half life of krypton-85 is 10.76 years and 0.67

MeV beta particles are emitted upon decay.

Paul Bernhardt, KF4FOR

From boatanchors@theporch.com Thu Dec 12 10:15:46 1996
From: Steve Bertsch <sbertsch@x1.us.ohio-state.edu>
Subject: Re: WTB: Connectors for "Twoers"
Message-ID: <199612121507.JAA02151@uro.theporch.com>

Another source is

MCM Electronics (Dayton,OH)
1-800-543-4330

Their part number is 101-063

$4.09 (1-9) $3.39 (10-up)

From boatanchors@theporch.com Thu Dec 12 18:54:42 1996
From: Sandy W5TVW <ebjr@worldnet.att.net>
Subject: WTD: Tube info/data
Message-ID: <19961212213426.AAA8706@LOCALNAME>

Hello gang,

Here's one I can't identify. No data in Vade Mecum or any data I have.

Want ratings on the Amerex A-333. It is a tube about the size of
the 810 or
the 805. Fits the same "50 watt" socket. Inside looks like a 805 (graphite
anode)
and same base connections. From the grid it looks like a low- "mu" triode.

73,

E. V. Sandy Blaize, W5TVW
"Boat Anchors collected, restored, repaired, traded and used!"
417 Ridgewood Drive,
Metairie, LA., 70001
ebjr@worldnet.att.net
Looking for: ELMAC PMR-7/PMR-12, Hallicrafters SR-75, 860 tubes

From boatanchors@theporch.com Thu Dec 12 23:53:41 1996

From: k7yha@juno.com (Richard H. Arland)
Subject: Zenith Global (chassis 6C41) Restoral
Message-ID: <19961213.043836.4311.8.k7yha@juno.com>

Gang:
This restoration is far more involved that I had imagined. The cosmetic restoral is going to take the majority of the time. So far I have cleaned the case and glued down any of the "stag" that was peeling away from the wood. Yesterday I applied an even coat of black shoe dye. Today the case received the first of four or possibly five coats of black shoe polish to restore the original luster. Due to the long storage in a very dry attic, the "stag" has dried tremendously and it will take some time to restore the finish.

All new tubes are on order (wouldn't have it any other way). There are 15 paper caps to replace along with one multi sectioned 'lytic. The rubber line cord needs replacement and AES does not stock that item...anyone have any ideas where I can get an AC line cord circa 1946?

All the brass came up briliantly! The only part of the brass that had any of the orange laquer was the bail that clasps the hold-down for the front panel. It took a while but I managaed to get that all cleaned up, just like the rest of the brass. The WaveMagnet looks great so not much work there. The hinges all cleaned up well, also.

Once the tubes arrive and the recapping is done, I"ll be ready to fire the beastie up and go for electrical restoral. I doubt that will be a big deal as the chassis is intact exept for a wirewound 140 ohm 2 watt resistor that is easily replaced.

Stay tuned for more details.

If all goes well the radio will be on display at the 10th annual SWL Winterfest at Lansdale (PA) in mid-March. Hola, Amigos! Viva Villa!

73 es MX

rich K7SZ